



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

chloroplasts in the bottom of the palisades is a local effect of the frost, which induces in the chloroplasts, and perhaps in the semifluid protoplasm also, a negative thermotactic migration.

SENN has also studied the migration of one of the chloroplasts of *Synedra Ulma* after division. The division of the diatom is of course longitudinal, while the two chromatophores divide transversely. One of each new pair, therefore, must move diagonally from one end of the old valve to the face of the new, elongating at the same time, while its fellow merely elongates to fill the old valve. The movement seems to be a true migration, not simultaneous in all parts of the chloroplast, but progressive while the elongation is going on.—C. R. B.

**Coloring matter of tomato.**—WILLSTÄTTER and ESCHER<sup>27</sup> have investigated the coloring matter of the tomato and come to the conclusion that it is a compound isomeric with carotin, but not identical with it as other investigators have claimed. The coloring matter, for which they retain SCHUNCK'S name lycopin, was extracted from both fresh and preserved tomatoes. The yield from 135<sup>kg</sup> fresh tomatoes was 2.7<sup>gm</sup>, and from 74<sup>kg</sup> preserved tomatoes 11<sup>gm</sup>. The tomatoes are dried by repeated washing with alcohol, which is finally pressed out. The residue is further dried on a water bath, ground to powder, and extracted with carbon bisulfid, which is driven off under reduced pressure. After being washed with alcohol and petroleum ether, the raw lycopin was most advantageously recrystallized from gasoline. The empirical formula is C<sub>5</sub>H<sub>7</sub>, and the molecular formula C<sub>40</sub>H<sub>56</sub> corresponds with carotin. Lycopin differs from carotin, however, in its crystal form and other physical properties, and in its chemical behavior toward oxygen and halogens. Both substances undergo auto-oxidation, but the quantities of oxygen absorbed differ in the two cases.—H. HASSELBRING.

**Plant succession in Nova Scotia.**—TRANSEAU<sup>28</sup> has outlined the succession of plant societies found on a portion of the southwestern coast of Nova Scotia. Several lines of physiographic succession have been investigated, and all are found to lead to the *Picea* formation, a forest association dominated by *Picea mariana* with a small percentage of *Abies balsamea* and *Picea canadensis*. The marine line of succession leads from the *Laminaria* and *Fucus* formations through a salt marsh with typical associations passing through an *Alnus-Myrica* shrub association to the final forest stage. The hydrophytic series has the same fate, the *Sphagnum* and *Larix* associations being two stages which usually precede the spruce. From the dry beach with *Ammophila* and *Atriplex* the transition is through the *Alnus-Myrica* association to the *Picea* forest. The final coniferous association varies considerably in density, but the trees are seldom more than 10<sup>m</sup> high; geographically it belongs to the author's northeastern conifer forest center.—GEO. D. FULLER.

<sup>27</sup> WILLSTÄTTER, R., AND ESCHER, H. H., Ueber den Farbstoff der Tomate. Zeit. Physiol. Chemie 64:47-61. pl. I. figs. I. 1910.

<sup>28</sup> TRANSEAU, EDGAR N., Successional relations of the vegetation about Yarmouth, Nova Scotia. Plant World 12:271-281. figs. 4. 1909.